

***What Is Claimed Is:***

5        1. A method of treating amyloidosis in a subject, said method comprising administering to said subject a combination of (a) a metal chelator selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof; and (b) clioquinol, for a time and under conditions to bring about said treatment; wherein said combination reduces, inhibits or otherwise interferes with A $\beta$ -mediated production of radical oxygen species.

10        2. The method of claim 1 wherein the metal chelator is bathocuproine.

15        3. The method of claim 1 further comprising administering a supplement selected from the group consisting of: ammonium salt, calcium salt, magnesium salt, and sodium salt.

20        4. The method of claim 3 wherein the supplement is magnesium salt.

5. The method of claim 1 further comprising administering to the subject an effective amount of a compound selected from the group consisting of: rifampicin, disulfiram, and indomethacin, or a pharmaceutically acceptable salt thereof.

6. A method of treating amyloidosis in a subject, said method comprising administering to said subject an effective amount of a combination of (a) a salt of a metal chelator, wherein said chelator is selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof, and (b)

clioquinol; wherein said salt of the metal chelator is selected from the group consisting of: ammonium, calcium, magnesium, and sodium; and wherein said combination reduces, inhibits or otherwise interferes with A $\beta$ -mediated production of radical oxygen species.

5        7.        The method of claim 6 wherein the metal chelator is bathocuproine.

10        8.        The method of claim 6 wherein the salt of a metal chelator is a magnesium salt.

15        9.        The method of claim 6 further comprising administering to said subject a compound selected from the group consisting of: rifampicin, disulfiram, and indomethacin, or a pharmaceutically acceptable salt thereof.

20        10.       A method of treating amyloidosis in a subject, said method comprising administering to said subject an effective amount of a combination of (a) a chelator specific for copper, and (b) clioquinol; wherein said combination reduces, inhibits or otherwise interferes with A $\beta$ -mediated production of radical oxygen species.

11.       The method of claim 10 wherein the chelator specific for copper is specific for the reduced form of copper.

20        12.       The method of claim 11 wherein the chelator is bathocuproine or a hydrophobic derivative thereof.

13.       A method of treating amyloidosis in a subject, said method comprising administering to said subject an effective amount of a combination of (a) an alkalinizing agent and (b) clioquinol; wherein said combination

reduces, inhibits or otherwise interferes with A $\beta$ -mediated production of radical oxygen species.

14. The method of claim 13 wherein the alkalinizing agent is magnesium citrate.

5 15. The method of claim 13 wherein the alkalinizing agent is calcium citrate.

16. A method of treating amyloidosis in a subject, said method comprising administering to said subject a combination of (a) a metal chelator selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof; and (b) clioquinol, for a time and under conditions to bring about said treatment; wherein said combination prevents formation of A $\beta$  amyloid, promotes, induces or otherwise facilitates resolubilization of A $\beta$  deposits, or both.

15 17. The method of claim 16 wherein the metal chelator is bathocuproine.

18. The method of claim 16 further comprising administering a supplement selected from the group consisting of: ammonium salt, calcium salt, magnesium salt, and sodium salt.

20 19. The method of claim 18 wherein the supplement is magnesium salt.

20. The method of claim 16 further comprising administering to the subject an effective amount of a compound selected from the group consisting

of: rifampicin, disulfiram, and indomethacin, or a pharmaceutically acceptable salt thereof.

21. A method of treating amyloidosis in a subject, said method comprising administering to said subject an effective amount of a combination of (a) a salt of a metal chelator, wherein said chelator is selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof, and (b) clioquinol; wherein said salt of the metal chelator is selected from the group consisting of: ammonium, calcium, magnesium, and sodium; and wherein said combination prevents formation of A $\beta$  amyloid, promotes, induces or otherwise facilitates resolubilization of A $\beta$  deposits, or both.

10 22. The method of claim 21 wherein the metal chelator is bathocuproine.

15 23. The method of claim 21 wherein the salt of the metal chelator is a magnesium salt.

24. The method of claim 21 further comprising administering to said subject a compound selected from the group consisting of: rifampicin, disulfiram, and indomethacin, or a pharmaceutically acceptable salt thereof.

20 25. A method of treating amyloidosis in a subject, said method comprising administering to said subject an effective amount of a combination of (a) a chelator specific for copper, and (b) clioquinol; wherein said combination prevents formation of A $\beta$  amyloid, promotes, induces or otherwise facilitates resolubilization of A $\beta$  deposits, or both.

26. The method of claim 25 wherein the chelator specific for copper is specific for the reduced form of copper.

27. The method of claim 26 wherein the chelator is bathocuproine or a hydrophobic derivative thereof.

5 28. A method of treating amyloidosis in a subject, said method comprising administering to said subject an effective amount of a combination of (a) an alkalinizing agent and (b) clioquinol; wherein said combination prevents formation of A $\beta$  amyloid, promotes, induces or otherwise facilitates resolubilization of A $\beta$  deposits, or both.

10 29. The method of claim 28 wherein the alkalinizing agent is magnesium citrate.

30. The method of claim 28 wherein the alkalinizing agent is calcium citrate.

15 31. A pharmaceutical composition for treatment of conditions caused by amyloidosis, A $\beta$ -mediated ROS formation, or both, comprising: (a) a metal chelator selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof; and (b) clioquinol, together with one or more pharmaceutically acceptable carriers or diluents.

20 32. The pharmaceutical composition of claim 31 wherein the metal chelator is bathocuproine.

33. The pharmaceutical composition of claim 31 further comprising a supplement selected from the group consisting of: ammonium salt, calcium salt, magnesium salt, and sodium salt.

34. The pharmaceutical composition of claim 33 wherein the supplement is a magnesium salt.

35. The pharmaceutical composition of claim 31 further comprising a compound selected from the group consisting of: rifampicin, disulfiram, and indomethacin.

36. A pharmaceutical composition for treatment of conditions caused by amyloidosis, A $\beta$ -mediated ROS formation, or both, comprising a combination of (a) a salt of a metal chelator selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof; and (b) clioquinol; wherein said salt of the metal chelator is selected from the group consisting of: ammonium, calcium, magnesium, and sodium, together with one or more pharmaceutically acceptable carriers or diluents.

37. The pharmaceutical composition of claim 36 wherein the metal chelator is bathocuproine.

38. The pharmaceutical composition of claim 36 wherein the salt of the metal chelator is a magnesium salt.

39. The pharmaceutical composition of claim 36 further comprising a compound selected from the group consisting of: rifampicin, disulfiram, and indomethacin.

40. A pharmaceutical composition for treatment of conditions caused by amyloidosis, A $\beta$ -mediated ROS formation, or both, comprising a chelator specific for copper, with one or more pharmaceutically acceptable carriers or diluents.

5 41. The pharmaceutical composition of claim 40 wherein the chelator is specific for the reduced form of copper.

42. The pharmaceutical composition of claim 41 wherein the chelator specific for the reduced form of copper is bathocuproine or a hydrophobic derivative thereof.

10 43. A pharmaceutical composition for treatment of conditions caused by amyloidosis, A $\beta$ -mediated ROS formation, or both, comprising a combination of (a) an alkalinizing agent and (b) clioquinol; together with one or more pharmaceutically acceptable carriers or diluents.

15 44. The pharmaceutical composition of claim 43 wherein the alkalinizing agent is magnesium citrate.

45. The pharmaceutical composition of claim 43 wherein the alkalinizing agent is calcium citrate.

20 46. A composition of matter comprising: (a) a metal chelator selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof; and (b) clioquinol.

47. The composition of claim 46 wherein the metal chelator is bathocuproine.

48. The composition of claim 46 further comprising a supplement selected from the group consisting of: ammonium salt, calcium salt, magnesium salt, and sodium salt.

49. The composition of claim 48 wherein the supplement is a  
5 magnesium salt.

50. The composition of claim 46 further comprising a compound selected from the group consisting of: rifampicin, disulfiram, and indomethacin.

51. A composition of matter comprising a combination of (a) a salt of a metal chelator selected from the group consisting of: bathocuproine, bathophenanthroline, DTPA, EDTA, EGTA, penicillamine, TETA, and TPEN, or hydrophobic derivatives thereof; and (b) clioquinol; wherein said salt of the metal chelator is selected from the group consisting of: ammonium, calcium, magnesium, and sodium.

52. The composition of claim 51 wherein the metal chelator is  
15 bathocuproine.

53. The composition of claim 51 wherein the salt of the chelator is a magnesium salt.

54. The composition of claim 51 further comprising a compound selected from the group consisting of: rifampicin, disulfiram, and indomethacin.

20 55. A composition of matter comprising a combination of (a) an alkalinizing agent and (b) clioquinol.

56. The composition of claim 55 wherein the alkalinizing agent is magnesium citrate.

57. The composition of claim 55 wherein the alkalinizing agent is calcium citrate.